

# Trout Buffer Disturbances



# Sedimentation Pollution Control Act

No land-disturbing activity ... shall be permitted in proximity to a lake or natural watercourse unless a **buffer zone** is provided along the margin of the watercourse ...

# Sedimentation Pollution Control Act

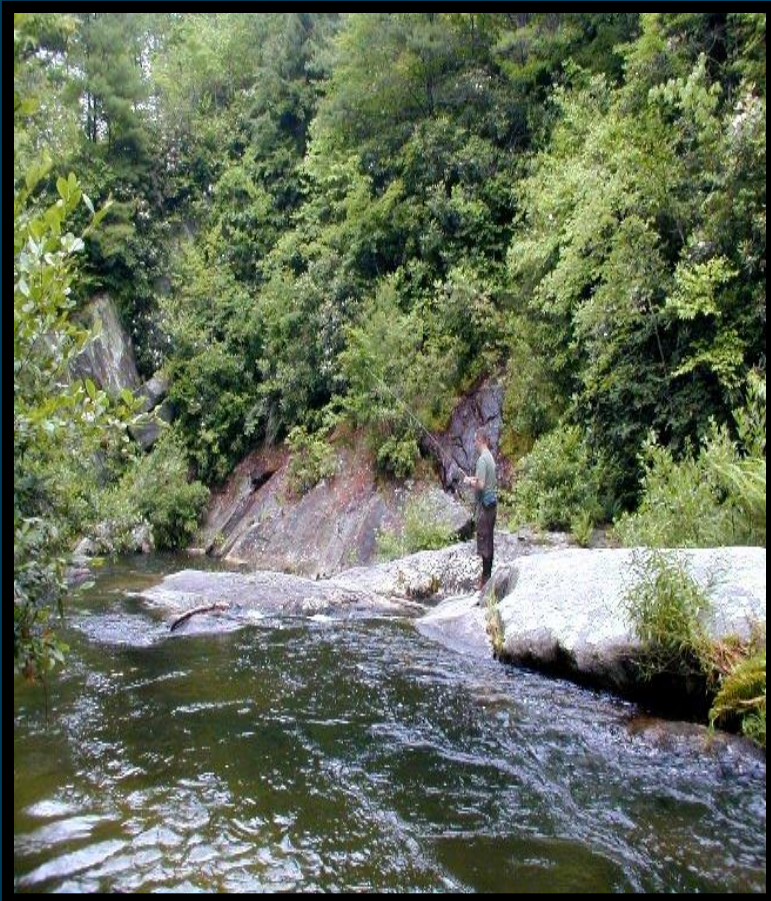
Waters that have been classified as trout waters by the Environmental Management Commission shall have an **undisturbed buffer zone 25 feet wide** or of sufficient width to confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land-disturbing activity, whichever is greater.

# Sedimentation Pollution Control Act

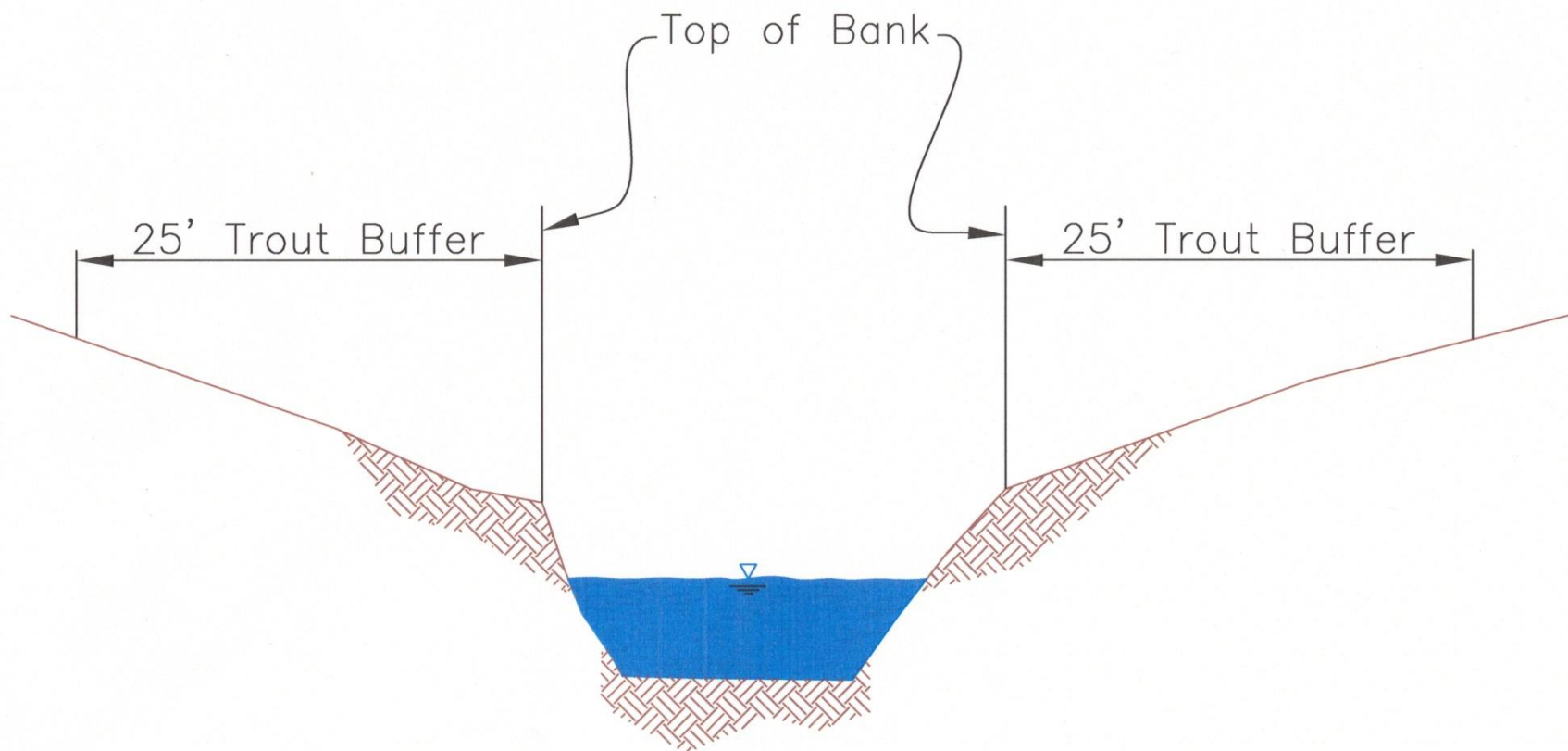
Provided, however, that the Sedimentation Control Commission may approve plans which include land-disturbing activity along trout waters when the **duration** of said disturbance would be **temporary** and the **extent** of said disturbance would be **minimal**.



# North Carolina Administrative Code



- The **25 foot** minimum width for an undisturbed buffer zone adjacent to designated trout waters shall be **measured horizontally from the top of the bank.**



CHANNEL SECTION

# North Carolina Administrative Code

- Land-disturbing activities in the buffer zone adjacent to designated trout waters shall be limited to a **maximum of ten percent** of the total length of the **buffer zone** within the tract to be distributed such that there is **not more than 100 linear feet of disturbance** in each 1000 linear feet of buffer zone.

# Example

If the tract has 5000 linear feet of buffer zone then the total amount of buffer zone that can be disturbed is 500 feet. However, the 500 feet can not be a continuous 500 feet. Only 100 feet in every 1000 feet can be disturbed.



# North Carolina Administrative Code

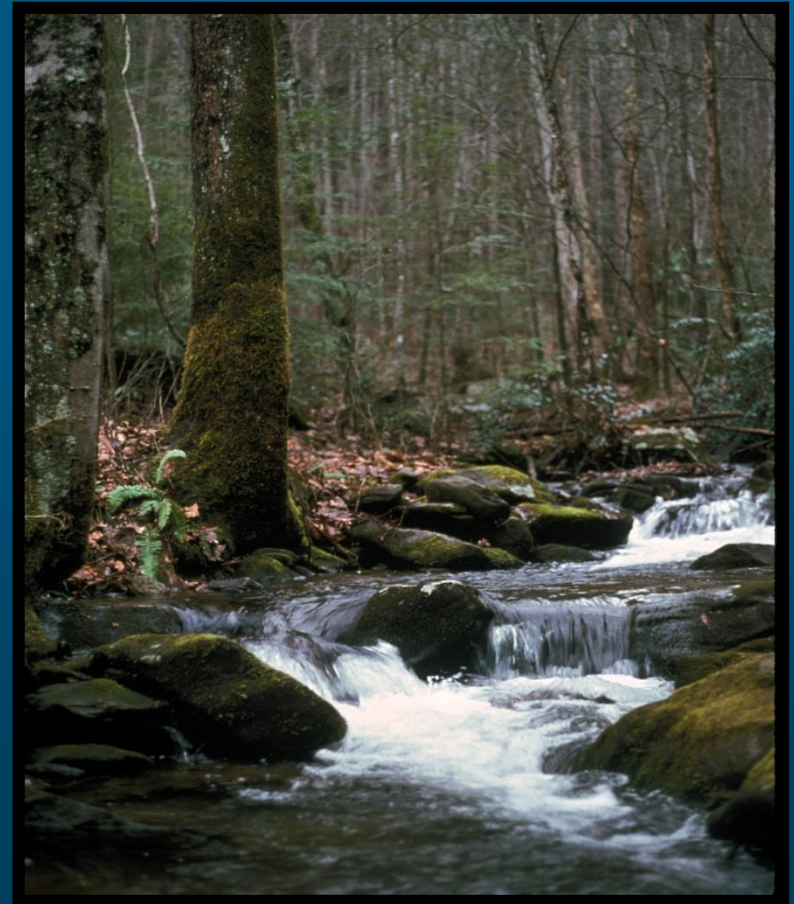
- Larger areas may be disturbed with the written approval of the Director. (This approval has been delegated to the State Sedimentation Specialist of the Land Quality Section.)

# North Carolina Administrative Code

- No land-disturbing activity shall be undertaken within a buffer zone adjacent to designated trout waters that will cause adverse temperature fluctuations.

# Variance Request

- If someone wants to disturb more than is minimal, they must submit a variance request to the Land Quality Section in Raleigh.



# Variance Request

The request shall include the following:

- A description of actions taken to avoid and to minimize the impact on the buffer
- Why this disturbance is considered to have temporary impacts on the buffer and stream from erosion and sedimentation.

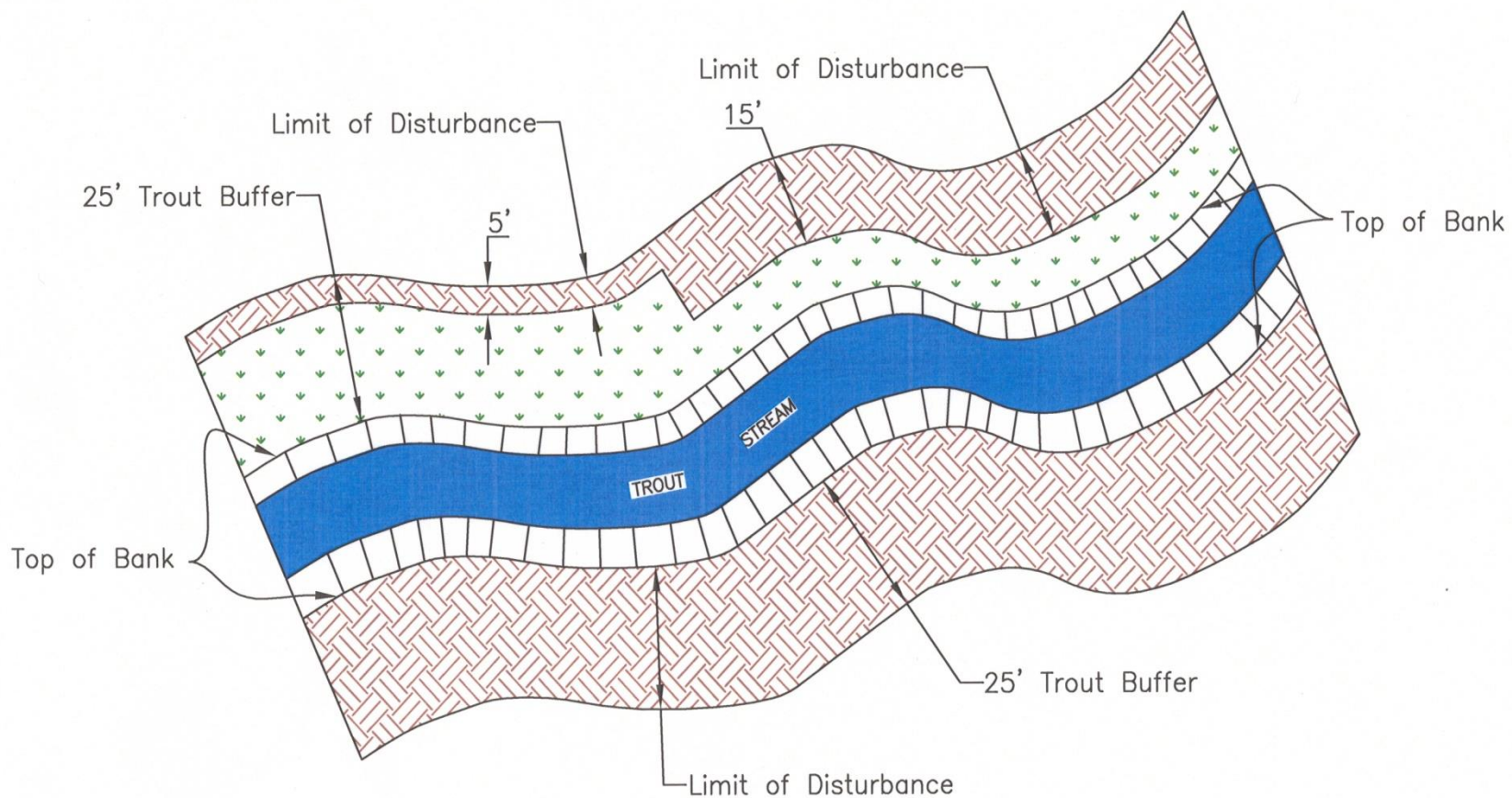
# Variance Request

- A plan that includes:
  - A narrative including a description of the disturbance.
  - A construction schedule detailing how the buffer is to be disturbed.



# Variance Request

- The top of bank of the trout stream must be identified on the plan.
- The 25 foot buffer must be identified on the plan.
- The length and width of buffer to be disturbed must be identified on the plan.



PLAN VIEW

# Variance Request

- The erosion and sedimentation control measures to be used in the buffer with details and calculations.
- Any measures needed to control water and sediment from areas outside of the buffer.

# Variance Request

## Other Considerations

- When planning, consideration should be taken not to soil stockpiles or sediment control measures in the buffer.
- The buffer should remain undisturbed where possible.
- Keep equipment and material storage out of the buffer.

# Variance Request

## Other Considerations

- If the buffer is in a 100-yr flood plain, other restrictions to building may apply.
- Provide coldwater BMP's and maintain sufficient stream shade to prevent adverse temperature fluctuations.



# Variance Request

## Other Considerations

- All materials for construction should be on hand before land-disturbing activity starts.
- Native plants must be used for permanent stabilization. Provide temporary ground cover while permanent ground cover is being established.

# Variance Request

- There is no set time frame to review a request for trout buffer variance.

**PLAN AHEAD!**

# Variance Request

- The Land Quality staff looks at each plan thoroughly and determines if impacts will be minimal and temporary. No disturbance will be approved that can be avoided.

# Variance Request

## Approval Conditions

Variances that are approved will generally have conditions that shall become part of the plan. These conditions may be general or project specific.

Several of these conditions are as follows:

# Variance Request

## Approval Conditions

- No land disturbing activity may take place within the trout buffer zone from October 15 to April 15 of each year. Moratorium based on recommendations from NC WRC.



# Variance Request

## Approval Conditions

- The hand clearing of trees and pruning of understory vegetation in the buffer may not begin until the flagging of clearing limits and individual trees has been checked by Land Quality Section staff. Existing understory vegetation may not be removed, but only pruned to the minimum heights shown on the plan.

# Variance Request

## Approval Conditions

- You shall monitor the weather forecast and only work on days on which dry weather is forecast.
- A qualified person in erosion and sedimentation control shall be at the site for all land disturbing activities within the buffer zone.

# Variance Request

## Approval Conditions

- All materials required for stream bank stabilization and construction of sedimentation and erosion control measures shall be available on site before any land disturbing activity is begun.

# Variance Request

## Approval Conditions

- All bank repairs, stabilization, grading, or any other disturbance within the 25-foot buffer zone shall be completed by the end of each day. Work shall be scheduled so that at the end of each day bare ground is not exposed and all disturbed areas including banks shall have adequate temporary or permanent ground cover.

# Coordination with Water Quality



Anyone requesting a trout buffer waiver is encouraged to contact the Division of Water Quality and obtain a 401 certification if needed.



# Coordination with Water Quality

**The Division of Land Resources and the Division of Water Quality coordinate the 401 certification and the trout buffer variance. Trout buffer variances do not supercede the turbidity standard of 10 NTUs.**

# Resources

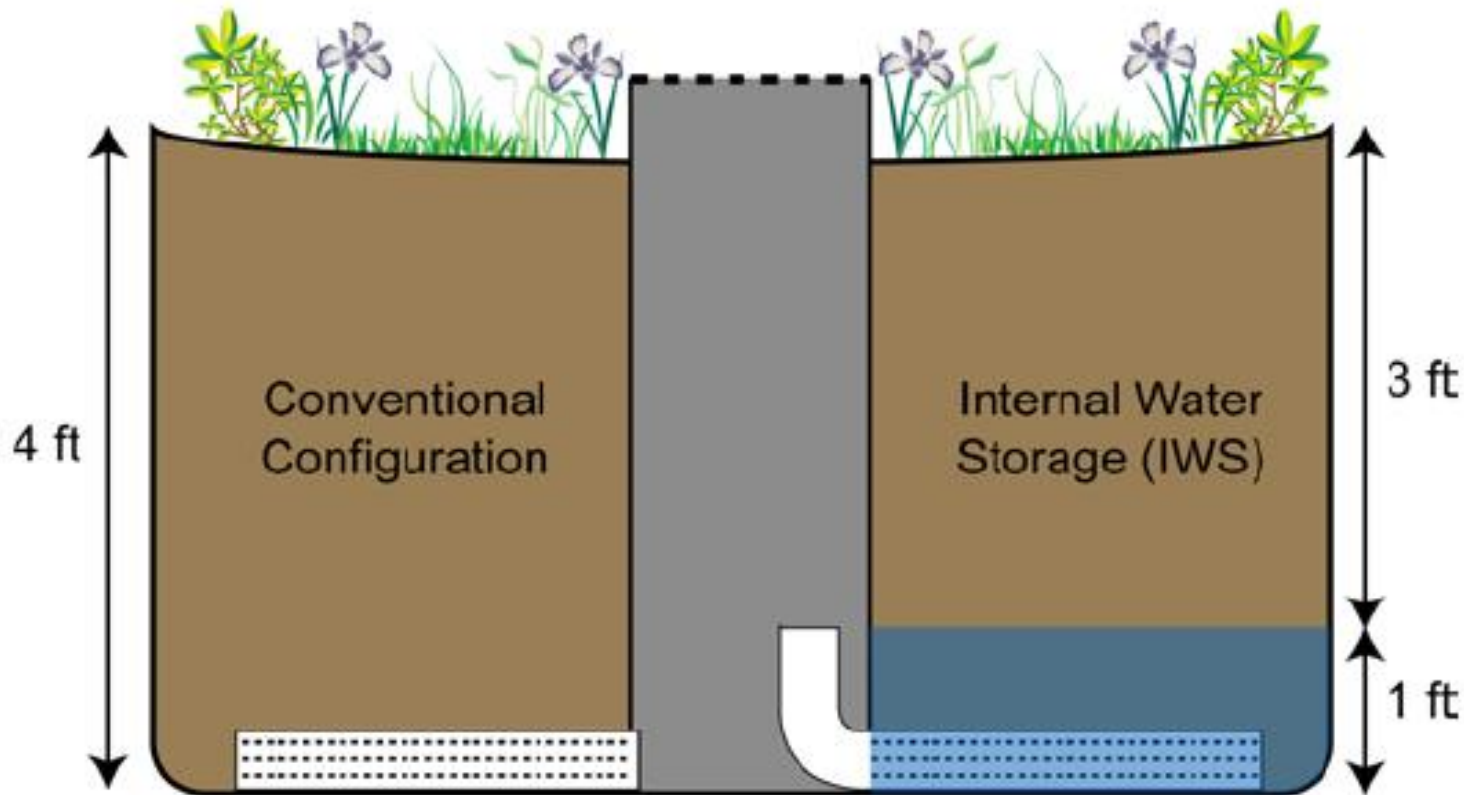


- Stormwater BMP's for Trout Waters  
<http://www.bae.ncsu.edu/stormwater/pubs.htm>
- DWQ Stormwater Manual  
<http://portal.ncdenr.org/web/wq/ws/su/bmp-manual>
- Erosion and Sedimentation Control Planning and Design Manual  
<http://portal.ncdenr.org/web/lr/publications>

# URBAN Waterways

## Stormwater BMPs for Trout Waters

*Coldwater Stream Design Guidance for Stormwater Wetlands,  
Wet Ponds, and Bioretention*



## Chapter 4, Vegetative Considerations

**Virginia wildrye**, *Elymus virginicus*, is a native, cool season, perennial bunchgrass that grows two to three feet in height. Virginia wildrye prefers moist soils, high soil fertility, heavier soil textures, and it is shade tolerant.

8

Table 8.02a

Grasses and Legumes for Use in Stabilization of Disturbed Soils In North Carolina

### Grasses

Common name:	VIRGINIA WILD RYE
Botanical name:	<i>Elymus virginicus</i>
Life Cycle:	Perennial
Growth form:	Bunch
Season of growth:	Spring
Height:	2.5 feet
pH range:	5-7
Seeds per lb (x 1000):	100
Applications:	Riparian areas, moist woods
Adaptations:	Shade tolerant, moist soils
Recommended varieties:	--
Notes:	Native

# Guidelines for Riparian Buffer Restoration

## Master List of Native Plants

### Native Regions

M= Mountains

P= Piedmont

C= Coastal Plain

### Light Requirements

S= Shade

P= Partial Sun

F= Full Sun

### Moisture Requirements

L= Low Moisture

M= Moderate Moisture

H= High Moisture

A= Aquatic

Scientific Name	Common Name	Region			Light			Moisture				
		M	P	C	S	P	F	L	M	H	A	
Medium to Large Trees												
<i>Acer barbatum</i>	Southern sugar maple		X	X	X	X			X			
<i>Acer saccharinum</i>	silver maple		X		X	X	X		X			
<i>Acer saccharum</i>	sugar maple	X				X	X		X			
<i>Betula alleghaniensis</i>	yellow birch	X			X	X			X			

Table 8.02b

**Table 8.02b**

## Guide to the Selection of Native Trees and Shrubs

Adapted from the NC DENR Ecosystem Enhancement Program Publication *Guidelines for Riparian Buffer Restoration*, October, 2004

### Master List of Native Plants

#### Native Regions

M= Mountains

P= Piedmont

C= Coastal Plain

#### Light Requirements

S= Shade

P= Partial Sun

F= Full Sun

#### Moisture Requirements

L= Low Moisture

M= Moderate Moisture

H= High Moisture

A= Aquatic

Scientific Name	Common Name	Region			Light			Moisture			
		M	P	C	S	P	F	L	M	H	A
Medium to Large Trees											
Acer barbatum	Southern sugar maple		X	X	X	X			X		
Acer saccharinum	silver maple		X		X	X	X		X		
Acer saccharum	sugar maple	X				X	X		X		
Betula alleghaniensis	yellow birch	X			X	X			X		

# References

- <http://www.flyfishingnc.com/a/picture.asp>
- Sediments newsletter. What You Need to Know About Disturbing Buffers on Trout Waters. July-Sept, Vol 11 No3, 2004.  
[http://www.dlr.enr.state.nc.us/images/2004\\_vol11\\_no3\\_julyaugsept\\_sediments.pdf](http://www.dlr.enr.state.nc.us/images/2004_vol11_no3_julyaugsept_sediments.pdf)

# Contacts

NC DEQ, Division of Energy, Mineral and  
Land Resources

1612 Mail Service Center

Raleigh, NC 27699

(919) 707-9220